

Atty Dkt. No.: KEMP-009(SP)  
USSN: 10/618,565

**AMENDMENTS TO THE CLAIMS:**

1. (Original) A method of registering images of different modalities, comprising:  
taking a first image of a subject obtained by an imaging process of a first modality;  
taking a second image of the subject obtained by an imaging process of a second modality, said second image having a known positional relationship with the first image;  
taking a third image of the subject obtained by an imaging process of a third modality;  
distinguishing between at least one area of interest and at least one other area not of interest in the second image;  
on the basis of said known positional relationship identifying said at least one area of interest and other area not of interest in the first image;  
registering the first and third images by an image matching process based on said at least one area of interest identified in the first image,
2. (Original) A method according to claim 1, wherein said at least one other area not of interest comprises image of background outside the subject.
3. (Original) A method according to claim 1, further comprising the step of setting the image intensities of the identified at least one other area not of interest to a constant value prior to conducting said matching process,
4. (Original) A method according to claim 3, wherein said constant value is zero or one.
5. (Original) A method according to claim 1 wherein the first and second images are obtained on the same imaging apparatus thus providing said known positional relationship.
6. (Currently Amended) A method according to claim ~~7~~ 1, wherein the first and second images are inherently registered.
7. (Original) A method according to claim 1 wherein the first image is an emission image in which intensity values are related to function in the subject.

Atty Dkt. No.: KEMP-009(SP)  
USSN: 10/618,565

8. (Original) A method according to claim 1 wherein the second image is a transmission image obtained by transmitting imaging radiation through the subject from one side to the other, the intensity values being related to attenuation and scattering of the radiation by the structure of the subject.

9. (Original) A method according to claim 1 wherein the third image is a detailed structural image of the subject.

10. (Original) A method according to claim 1 wherein the step of registering the first and third images comprises deriving a positional transformation mapping to each other areas identified in said matching process as corresponding to each other.

11. (Original) A method according to claim 1 wherein the matching process comprises matching intensities of said at least one area of interest of the first image with areas in said third image to identify corresponding areas.

12. (Original) A method according to claim 1 wherein the intensities in said first image are corrected for attenuation in the subject by means of the second image before said matching process is conducted.

13. (Original) A method according to claim 1 wherein the intensities in said first image subjected to an enhancement process before said matching process is conducted.

14. (Original) A method according to claim 1 wherein at least one of the first and second images is a nuclear medicine image.

15. (Original) A method according to claim 1 wherein the first image is a nuclear medicine image showing the presence of a radioactive marker in the body of the subject.

16. (Original) A method according to claim 1 wherein the third image is a medical image.

Att. Dkt. No.: KEMP-009(SP)  
USPN: 10/618,565

17. (Original) A computer system comprising a data processor, a data storage means and a display, the data processor being adapted to process data in accordance with an executable program stored in the data storage means, wherein the executable program is adapted to execute the method of claim 1 on input data representing said first, second and third images and to display the first and third images superposed in registration with each other on the display.

18. (Original) A computer program comprising program code means for executing on a computer the method of claim 1.

19. (Original) A computer program product carrying the computer program of claim 18.